Amendments to the Claims:

The following listing of claims will replace all prior versions and/or listings of claims in the application.

Listing of Claims:

Please cancel claim 21.

1. (Withdrawn) In a network comprising a plurality of nodes, a method for assigning a different network address to each node, the method comprising each node performing the steps of: broadcasting a unique identifier for the node to the other nodes, wherein each node has a different unique identifier; receiving unique identifiers for the other nodes; and assigning a different network address to each of the nodes based on the unique identifier received from the node, wherein each node assigns network addresses in a common predetermined manner.

2. (Withdrawn) The method of claim l, wherein: the nodes are coupled to form a ring; and the step of broadcasting a unique identifier for the node to the other nodes comprises transmitting the unique identifier around the ring.

3. (Withdrawn) The method of claim 2 wherein the step of transmitting the unique identifier around the ring comprises, at each node: receiving the unique identifier; storing the unique identifier and retransmitting the unique identifier to a next node on the ring, if the node did not originate the broadcast of the unique identifier; and not retransmitting the unique identifier, if the node did originate the broadcast of the unique identifier.

4. (Withdrawn) The method of claim l, wherein the nodes are coupled in a mesh configuration.

5. (Withdrawn) The method of claim 1 wherein the unique identifier comprises a Media Access Control (MAC) address.

6. (Withdrawn) The method of claim 1 wherein the network address comprises an Internet Protocol (IP) address.

7. (Withdrawn) The method of claim 1 wherein the step of assigning a different network address to each of the nodes comprises: in an address table comprising a plurality of records, each record corresponding to one of the nodes, inserting the unique identifier received for a node into a record for the node; and inserting a different network address into each of the records based on the unique identifier in the record, wherein each node determines which network address to insert into each record in a common predetermined manner.

8. (Withdrawn) The method of claim 1 wherein the step of assigning a different network address to each of the nodes comprises: assigning the network addresses sequentially from a predetermined set of network addresses.

9. (Withdrawn) The method of claim 1 wherein the nodes form part of a public switched telephone network.

10. (Withdrawn) The method of claim 1 wherein: the unique identifier includes a MAC address and the network address includes an IP address; the nodes are coupled to form a ring; the step of broadcasting a unique identifier to the other nodes comprises, at each node: receiving the unique identifier; storing the unique identifier and retransmitting the unique identifier to a next node on the ring, if the node did not originate the broadcast of the unique identifier; and not retransmitting the unique identifier, if the node did originate the broadcast of the unique identifier; and the step of assigning a different network address to each of the nodes comprises: in an address table comprising a plurality of records, each record corresponding to one of the nodes, inserting the MAC address received for a node into a record for the node; sequentially assigning IP addresses to each of the nodes; and inserting the assigned IP address into the record for the node.

11. (Withdrawn) The method of claim 1 wherein: the step of broadcasting a unique identifier to the other nodes fuirther comprises, for at least one node, broadcasting a network address along with the unique identifier; and the step of assigning a different network address to each of the nodes comprises: assigning the network address broadcast along with the unique identifier to the at least one node; and assigning a different network address to each of the nodes other than the at least one node in a common predetermined manner.

12. (Previously presented) In a network comprising a plurality of nodes, a method for assigning a different network address to each node of the plurality of nodes, the method comprising each node performing:

periodically broadcasting a unique identifier for the node to other nodes of the plurality of nodes, wherein each node has a different unique identifier;

receiving unique identifiers for the other nodes; and

in an address table comprising a plurality of records, each record corresponding to one of the nodes in the plurality of nodes and including a unique identifier for the node and a network address for the node:

if a record containing the unique identifier does not exist,

creating a new record and

inserting the received unique identifier into the record; and

if a record containing the unique identifier does exist,

updating the record; and

reassigning the network addresses in the records based on the unique identifiers in the records, wherein each node of the plurality of nodes determines which network address to assign to each record in a common predetermined manner.

13. (Previously presented) The method of claim 12, wherein reassigning the network addresses in the records comprises:

determining which records are unexpired; and

reassigning the network addresses only for unexpired records.

14. (Previously presented) The method of claim 12, wherein reassigning the network addresses in the records comprises reassigning the network addresses only when a new record is created.

15. (Previously presented) The method of claim 12,

wherein the record for a node further includes a time to live field indicating a time remaining until an expiration of the record; and

wherein updating the record comprises resetting the time to live field for the record.

16. (Previously presented) The method of claim 15,

wherein periodically broadcasting a unique identifier to the other nodes comprises all nodes of the plurality of nodes broadcasting their unique identifiers once per a time interval; and

wherein resetting the time to live field comprises resetting the time to live field to a value at least two times as long as the time interval.

17. (Previously presented) The method of claim 15, wherein reassigning the network addresses in the records comprises:

marking a record as expired when the time to live field for that record expires; and

reassigning the network addresses only for unexpired records.

18. (Previously presented) The method of claim 12, further comprising proxying the unique addresses for records which have expired but have not been purged.

19. (Previously presented) In a network comprising a plurality of nodes, a method for assigning a different network address to each node, the method comprising each node performing the steps of: periodically broadcasting a unique identifier for the node to the other nodes, wherein each node has a different unique identifier; receiving unique identifiers for the other nodes; and in an address table comprising a plurality of records, each record corresponding to one of the nodes and including a unique identifier for the node and a network address for the node: if a

record containing the unique identifier does not exist, creating a new record and inserting the received unique identifier into the record; and if a record containing the unique identifier does exist, updating the record; and reassigning the network addresses in the records based on the unique identifiers in the records, wherein each node determines which network address to assign to each record in a common predetermined manner;

wherein: the unique identifier includes a Media Access Control (MAC) address and the network address includes an Internet Protocol (IP) address; the nodes are coupled to form a ring; the record for a node further includes a time to live field indicating a time remaining until expiration of the record; the step of periodically broadcasting a unique identifier to the other nodes comprises, at each node: receiving the MAC address; storing the MAC address and retransmitting the MAC address to a next node on the ring, if the node did not originate the broadcast of the MAC address; and not retransmitting the MAC address, if the node did originate the broadcast of the MAC address; the step of updating the record comprises resetting the time to live field for the record; and the step of reassigning the network addresses in the records comprises: marking a record as expired when the time to live field for that record expires; and sequentially assigning IP addresses only for unexpired records and only when a new record is created.

20. (Previously presented) The method of claim 12, wherein each node in the plurality of nodes independently determines a network address for at least each other node in the plurality of nodes using the periodically broadcast unique identifiers from each of the other nodes in the plurality of nodes and using the common predetermined manner.

21. (Cancelled).